

PATENT

Attorney Docket No: BRI/016

Amendments to the claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (previously presented) A pyrotechnic circuit breaker for use in an electrical circuit comprising:
  - a) an electrically conductive portion including means for secure incorporation of the portion into the electrical circuit;
  - b) a pyrotechnic igniter including an output end, said igniter secured so that said output end is oriented toward said electrically conductive portion;
  - c) a passage between said output end of said pyrotechnic igniter and said electrically conductive portion;
  - d) a rupture area adjacent said electrically conductive portion and on the opposite side of said electrically conductive portion from said pyrotechnic igniter output end;
  - e) a housing formed of polymer; and,
  - f) a projectile formed of polymer as an integral part of said housing, between said pyrotechnic igniter and said electrically conductive portion;

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wherein said electrically conductive portion is formed to be readily cut by said projectile.

2. (previously presented) The circuit breaker of claim 1, wherein said rupture area is defined in said housing.

3. (canceled)

4. (original) The circuit breaker of claim 1, wherein said electrically conductive portion is a current load-based fuse.

5. (canceled)

6. (previously presented) The circuit breaker of claim 4, wherein said fuse is a bolt-on fuse strip.

7-14. (canceled)

15. (previously presented) The circuit breaker of claim 1, wherein said electrically conductive portion includes an enlarged impact area that is enlarged in a plane generally perpendicular to the output of said pyrotechnic igniter.

16. (previously presented) The circuit breaker of claim 1, wherein said electrically conductive portion includes an area that is flattened in a plane generally perpendicular to the output of said pyrotechnic igniter.

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17. (original) The circuit breaker of claim 16, wherein said electrically conductive portion is a current load-based fuse.

18. (previously presented) The circuit breaker of claim 1, wherein said electrically conductive portion has a periphery, and said rupture area has a perimeter selected so as to minimize the clearance between said rupture area and said electrically conductive portion.

19. (original) The circuit breaker of claim 16, wherein said electrically conductive portion has a periphery, and said rupture area has a perimeter selected so as to minimize the clearance between said rupture area and said electrically conductive portion.

20. (currently amended) A pyrotechnic circuit breaker for use in an electrical circuit comprising:

a) an electrically conductive portion having two ends each including a bolt hole ~~means for secure incorporation of the portion into the electrical circuit, said electrically conductive portion having a first end and a second end, said means for secure incorporation including a first portion at said first end and a second portion at said second end,~~ said electrically conductive portion

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being an integral single piece that has a uniform thickness throughout the distance between said bolt holes ~~first portion and said second portion of said means for secure incorporation;~~

b) a housing;

c) a pyrotechnic igniter including electrical leads and an output end, said igniter secured to said housing so that said output end is oriented toward said electrically conductive portion;

d) a passage defined in said housing between said output end of said pyrotechnic igniter and said electrically conductive portion; and,

e) a rupture area defined in said housing adjacent said electrically conductive portion and on the opposite side of said electrically conductive portion from said pyrotechnic igniter output end.

21. (previously presented) A pyrotechnic circuit breaker for use in an electrical circuit comprising:

a) an electrically conductive portion including means for secure incorporation of the portion into the electrical circuit, wherein said electrically conductive portion has an impact area;

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- b) a pyrotechnic igniter including electrical leads and an output end, said igniter secured so that said output end is oriented toward said electrically conductive portion;
- c) a passage between said output end of said pyrotechnic igniter and said electrically conductive portion; and,
- d) a rupture area having a perimeter adjacent said electrically conductive portion and on the opposite side of said electrically conductive portion from said pyrotechnic igniter output end; and,
- e) means for breaking said electrically conductive portion using the output of said pyrotechnic igniter.

22. (previously presented) The circuit breaker of claim 21, wherein said electrically conductive portion is a current load-based fuse.

23. (previously presented) The circuit breaker of claim 22, wherein said fuse is a bolt-on fuse strip.

24. (previously presented) The circuit breaker of claim 21, wherein said electrically conductive portion has a narrowed region between said passage and said rupture area.

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25. (currently amended) The circuit breaker of claim 20, wherein said electrically conductive portion is a ~~belt-on~~ fuse strip that is current load-based.

26. (currently amended) The circuit breaker of claim [[20]] 25, wherein said fuse ~~electrically conductive portion~~ has a narrowed region between said passage and said rupture area.

27. (previously presented; withdrawn) The circuit breaker of claim 20, wherein said circuit breaker does not include a projectile.

28. (previously presented; withdrawn) The circuit breaker of claim 21, wherein said means for breaking does not include a projectile, and said means for breaking breaks said electrically conductive portion through the direct application of said pyrotechnic igniter's output on said electrically conductive portion.

29. (previously presented; withdrawn) The circuit breaker of claim 28, wherein said impact area is flattened and/or enlarged in a plane generally perpendicular to the output of said pyrotechnic igniter and said perimeter is selected so as to minimize the clearance between said rupture area and said electrically conductive portion.

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30. (previously presented) The circuit breaker of claim 21, wherein said means for breaking breaks said electrically conductive portion by using the output of said pyrotechnic igniter to propel a projectile into said electrically conductive portion.

31. (previously presented) The circuit breaker of claim 21, wherein said electrically conductive portion is a fuse, said fuse having a first and second end, said means for secure incorporation including a portion at said first end of said fuse and a second portion at said second end of said fuse, said fuse being an integral single piece that has a uniform thickness throughout the distance between said first and second portions of said means for secure incorporation.

32. (previously presented) The circuit breaker of claim 1, wherein said electrically conductive portion is a fuse, said fuse having a first and second end, said means for secure incorporation including a portion at said first end of said fuse and a second portion at said second end of said fuse, said fuse being an integral single piece that has a uniform thickness throughout the distance between said first and second portions of said means for secure incorporation.